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VII. *An Account of a Family having Hands and Feet with supernumerary Fingers and Toes.* By Anthony Carlisle, Esq. F. R. S. In a Letter addressed to the Right Hon. Sir Joseph Banks, Bart. K. B. P. R. S.

Read December 23, 1813.

DEAR SIR,

THE following account of a family having hands and feet with supernumerary fingers and toes, and the hereditary transmission of the same peculiarity to the fourth generation, appears to be worth preserving, since it displays the influence of each of the propagating sexes; the male and the female branches of the original stem having alike reproduced this redundancy of parts. I have carefully inspected two persons of this family at the time of their being in London, namely, ABIAH COLBURN, and his son ZERAH COLBURN, and have taken the particulars of the rest from ABIAH COLBURN himself, whose narrative was several times repeated to me, without any deviation.

ZERAH COLBURN, a native of the township of Cabot in the province of Vermont, in North America, has been lately brought to London, and publicly exhibited for his extraordinary powers in arithmetical computations from memory. This boy has a supernumerary little finger growing from the outside of the metacarpus of each hand, and a supernumerary little toe upon the outside of the metatarsus of each foot.

These extra fingers and extra toes are all completely formed, having each of them three perfect phalanges with the ordinary joints, and well shaped nails.

ABIAH COLBURN, the father of ZERAH, has five fingers and a thumb upon each hand, and six toes on each foot; he has also five metacarpal bones in each hand, and six metatarsal bones in each foot. The extra limbs have distinct flexor and extensor tendons.

The wife of ABIAH COLBURN has no peculiarity in her limbs. During the existing marriage, she has borne eight children, six sons, and two daughters. Four of those sons inherit the peculiarity of their father more or less complete, while the two daughters are free from the family mark, as well as two of the sons, namely, the fourth in succession who was a twin, and the eighth.

The eldest son of these parents, named GREEN COLBURN, has only five toes on one of his feet, but the other foot, and both his hands possess the extra limb.

The second child, BETSY COLBURN, is naturally formed.

The third, ZEBINA COLBURN, has five fingers and a thumb upon each hand, and six toes upon each foot.

The fourth and fifth were twin brothers, and named DAVID and JONATHAN; DAVID, who is dead, had nothing of the father's mark, but,

JONATHAN has the peculiarity complete.

The sixth, ZERAH COLBURN, the extraordinary calculating boy, is marked like his father, as before described.

The seventh, MARY COLBURN, is naturally formed.

The eighth and last child, ENAS COLBURN, is also exempt from the father's peculiarity.

Besides the persons I have mentioned, this hereditary redundancy of limbs has been attached to the little fingers, and to the little toes of several of the ancestors of the family. The mother of ABIAH COLBURN brought the peculiarity into his family. Her maiden name was ABIGAIL GREEN; she however had not the extra finger on one of her hands; the other hand, and her feet were similarly marked with those of her son ABIAH.

DAVID COLBURN, the father of ABIAH, had no peculiarity. By his marriage with ABIGAIL GREEN, he had three sons and one daughter. Two of these sons and the daughter were fully marked in all the limbs; the other son had one hand and one foot naturally formed.

ABIGAIL GREEN inherited these supernumerary limbs from her mother, whose maiden name was — KENDALL, and she had five fingers and a thumb upon each hand, and six toes on each foot.

The marriage of — KENDALL with Mr. — GREEN produced eleven children, whom ABIAH COLBURN's mother, who was one of the eleven, reports to have been all completely marked: but the present family are unacquainted with the history of the other ten branches, and they do not possess any knowledge of their ancestors beyond — KENDALL, the great grandmother of ZERAH COLBURN.

Numerous examples of the hereditary propagation of peculiarities have been recorded: all family resemblances, indeed, however trifling they may appear to a common observer, are interesting to the physiologist, and equally curious; though not so rare as those described in the preceding history. In every department of animal nature, accumulation of facts must

always be desirable, that more reasonable inductions may be established concerning the laws which direct this interesting part of creation: and it might be attended with the most important consequences, if discovery could be made of the relative influence of the male and female sex in the propagation of peculiarities, and the course and extent of hereditary character could be ascertained, both as it affects the human race in their moral and physical capacities, and as it governs the creatures which are subdued for civilized uses. Nor is it altogether vain to expect, that more profound views, and more applicable facts await the researches of men, who have as yet only begun to explore this branch of natural history, by subjecting it to physical rules.

Though the causes which govern the production of organic monstrosities, or which direct the hereditary continuance of them, may for ever remain unknown, it still seems desirable to ascertain the variety of those deviations, and to mark the course they take, where they branch out anew, and where they terminate. There is doubtless a general system in even the errors of nature, as is abundantly evinced by the regular series of monstrosity exhibited both in animals and vegetables.

It has happened in my professional capacity, that I have had to extirpate a supernumerary thumb from each of the hands of two girls, who were both idiots, though the families to whom they belonged were unknown to each other. I have seen many instances of supernumerary thumbs and supernumerary fingers in persons to whom the singularity was not hereditary, and I have read of many others; but whether of my own experience, or of authentic record, the redundancy has

been on the outer side of the little finger, and outer side of the thumb, never on the back or inside of the hand, or on the sides of the intermediate fingers: and in similar cases as to the toes, the rule has been invariably the same. In the Sacred Writings an example of this kind is given, II Samuel, ch. 21. v. 20. "And there was yet a battle in Gath, where was a man
 " of *great* stature, that had on every hand six fingers, and on
 " every foot six toes, four and twenty in number; and he also
 " was born to the giant." The same account is repeated in I Chronicles, ch. 20. v. 6.

In the *Elementa Physiologiæ* of Baron HALLER, numerous examples of this deformity are cited from various authors, with some instances of their hereditary descent, and others of a cutaneous junction between the extra limbs and the next adjoining.*

That local resemblances, such as those of external parts, the hands, the feet, the nose, the ears, and the eye-brows, are hereditary, is well known; and it is almost equally evident, that some parts of the internal structure are in like manner transmitted by propagation: we frequently see a family form of the legs and joints, which gives a peculiar gait, and a family character of the shoulders, both of which are derived from an hereditary similarity in the skeletons. Family voices are also very common, and are ascribable to a similar cause. Apparently many of our English surnames have been taken from the hereditary peculiarities of families, and the same practice existed among the Romans. PLINY, in his eleventh Book, chap. 43, relates an instance of a Roman poet, named VOLCA-TIUS, who had six fingers on each hand, and received the

* Vide Vol. viii. p. 93.

surname of SEDIGITUS in consequence. He also states, that two daughters of a noble Roman, named M. CURIATIUS, had each six fingers, and that they took the surname of SEDIGITÆ. Persons who had the surname of FLACCUS were so called from their pendulous ears, and numerous other instances are recorded by classic writers of surnames being derived from family marks.

Anatomical researches have not been so generally extended as to determine the prevalence of internal peculiarities, and perhaps they do not reach to the sanguineous system. I have known two instances, in two different families, of the high division of the brachial arteries having the ulnar branch placed above the fascia of the biceps muscle at the inner bend of the elbows, and yet the father, the mother, the brothers and sisters of those two persons were not so formed. Those marks called *nævi materni*, which are derangements of the sanguineous vessels, are not hereditary, whilst less remarkable changes in the ordinary skin are often so. I have lately seen a man, and who is now living, who has a small pendulous fold attached to the skin of his upper eyelid, and the same peculiarity has been transmitted to his four children. It would have been interesting to know, whether any similarity of structure existed in the families of the two rare examples of a total transposition of the abdominal and thoracic viscera. (Phil. Trans. for 1674, No. 107. pag. 146, by Dr. SAMPSON, and Vol. 78, page 350.)

In particular breeds of animals, the characteristic signs are generally continued, whether they belong to the horns of kine, the fleeces of sheep, the proportions of horses, the extensive varieties of dogs, or the ears of swine. In China the varieties

of gold and silver fishes are carefully propagated, and with us, what are vulgarly called “fancy pigeons” are bred into most whimsical deviations from their parent stock.

As wild animals and plants are not liable to the same variations, and as all the variations seem to increase with the degree of artificial restraint imposed, and as certain animals become adapted by extraordinary changes to extraordinary conditions, it may still be expected that some leading fact will eventually furnish a clue, by which organic varieties may be better explained. A few generations of wild rabbits, or of pheasants under the influences of confinement, break their natural colours, and leave the fur and feathers of their future progeny uncertainly variegated. The very remarkable changes of the colour of the fur of the hare, and the feathers of the partridge in high northern latitudes, during the prevalence of the snow, and the adaptation of that change of colour to their better security, are coincidences out of the course of chance, and not easily explained by our present state of physical knowledge.

I have the honour to be, Dear Sir,

your much obliged and obedient servant,

ANTHONY CARLISLE.

To the Right Hon. Sir Joseph Banks, Bart.

K. B. P. R. S. &c.

A Table shewing the hereditary Descent of this Peculiarity, according to the Method of Genealogists.

<p>— Green, — daughter of — a man naturally — Kendall — has 5 fingers and a thumb on each hand, and 6 toes on each foot.</p>	
<p>David Colburn, — Abigail, daughter of — a man naturally — Green, has one hand natu- rally formed: the other hand, and both the feet, like her mother's.</p>	<p>Ten other children, all of them having 5 fingers and a thumb on each hand, and 6 toes on each foot.</p>
<p>Abiah Colburn, — daughter of — has 5 fingers and — naturally formed; the a thumb on each — other with 5 fingers and a hand, and 6 toes — a thumb, and one of the on each foot. — feet with 5 toes, the other naturally formed.</p>	<p>One son, and one daugh- ter, with 5 fingers and a thumb on each hand, and 6 toes on each foot.</p>
<p>Green Colburn, Betsey Col- burn: her hands and feet naturally formed, and a thumb on each hand, and 6 toes naturally formed.</p>	<p>Jonathan Colburn, Zerah Colburn, has 5 fingers and a thumb on each hand, and 6 toes on each foot. — a twin with David.</p>
<p>Green Colburn, has one foot natu- rally formed, the other with 6 toes; and 5 fin- gers and a thumb on each hand.</p>	<p>Mary Colburn: her hands and feet natu- rally formed. Enas Colburn: his hands and feet natu- rally formed.</p>